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ABSTRACT

This paper proposes a multivariate strategy for the study of parental acceptance-rejection and child abuse and describes a research study on parental rejection and child abuse which illustrates the advantages of using a multivariate, (rather than a simple-model) approach. The multivariate model is a combination of three simple models used to study child abuse and neglect (psychiatric, behavioral and social-situational), and is based on the supposition that parental behavior is a function of the parent's personal characteristics in interaction with the child's personal characteristics and behavior and with situational factors. The model suggests that psychological, behavioral and social-situational factors almost always operate simultaneously to produce rejection and abuse. Eighteen risk factors associated with child abuse and parental rejection are grouped into three categories consistent with the three major components in the multivariate model. A study of 14 abusive and 11 nonabusive families illustrates the relative advantages of the multivariate over the simple-model approach. Data on all three elements of the model were collected through home visits over a period of three months, the Parental Acceptance-Rejection Questionnaire (Adult PARQ II), the Personality Assessment Questionnaire (Adult PAQ), and a background data schedule measuring situational and demographic information. The child's perception of his parents' behavior was obtained through the Child PARQ, and an individual interview. Study data, analysed using both simple-model and multivariate approaches, indicated that variation in parental behavior could be better explained through an analysis of the cumulative effect of multiple risk factors (multivariate model) rather than three factors by themselves (simple-model). (CM)

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A MULTIVARIATE MODEL FOR THE STUDY OF PARENTAL ACCEPTANCE-REJECTION AND CHILD ABUSE[1]

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Research on child abuse and neglect generally draws on one of three models. The first, a psychiatric model, emphasizes the personality and behavioral characteristics of the individual abuser (Spinetta and Rigler, 1972); the second model is concerned with the effects of abuse on the child, and on the child's role in stimulating abuse (Martin et al., 1974); the third, a social-situational model, highlights the role of the social environment and environmental stress as factors in child abuse (Gelles, 1973). The latter model also often includes patterns of interaction within the family, including ineffective parenting skills (Parke and Collmer, 1975). Each of these models provides a different way of interpreting child abuse and each implies a different means of prevention and treatment.

In this article we refer to these three perspectives as the "simple models" of parental rejection and child abuse. Simple models by themselves are generally insufficient for understanding the problem of abuse because the antecedents of rejection and abuse normally cannot be predicted well from a knowledge of any single factor. In fact, single factors by themselves rarely account for more than a modest amount of the variation in parents'

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behavior, abusive or nonabusive. For example, knowing that a parent has been abused as a child does no more than increase the probability in an actuarial sense that the parent might abuse his own child. Similarly, social isolation by itself is associated with only a small percentage of abusing families--even though it is known from worldwide research that mothers everywhere who are trapped in social isolation with their young children have a greater probability of rejecting their children than do mothers who are not socially isolated (Rohner, 1975).

The value of integrating these three simple models into a multivariate approach has been recognized (Belsky, 1977; Garbarino, 1977; Parke and Collmer, 1975), but the vast portion of research nonetheless continues to address the problem from the perspective of one or another of the simple models, and even occasionally from the point of view of a single variable within a simple model. In an effort to direct attention to the fact that parental rejection and child abuse are multidetermined phenomena, a multivariate model is employed in this article.

This article is divided into two sections. In the first part we describe a multivariate strategy for the study of parental acceptance-rejection and child abuse, a general model which incorporates all three particularistic models described above. We then cite a constellation of personal and situational risk-factors which individually or in clusters have been associated with child abuse. In the second part of this article we describe our recent research on parental rejection and child abuse, and demonstrate the advantages of the multivariate approach as a complement to the simple-model approaches.

It is important to denote at the outset the relation between parental rejection and child abuse. Parental rejection refers to the absence or significant withdrawal of warmth and affection. Rejection is manifested the world over in two principal ways: (1) in the form of hostility and verbal or physical aggression toward children, and (2) in the form of indifference and neglect (Rohner, 1975; Rohner and Rohner, 1976). As such, parental rejection is virtually synonymous with the emerging concept of emotional abuse, although rejection sometimes also takes the form of physical violence. It should be noted, however, that not all children who are reported as being physically abused perceive themselves as being rejected, and many rejected children are neither physically abused nor neglected.[2] For example, a normally loving but temporarily distraught mother may injure her wailing, fretfull infant--and thus be reported for child abuse. This specific act is, of course, one of rejection and abuse, but since it does not reflect the usual emotional bond between mother and infant it does not reflect chronic rejection. The developmental effects of this incident are likely to be dramatically different from the effects of long-term parental rejection (Rohner, 1975).

A MULTIVARIATE MODEL

According to the multivariate model portrayed in Figure 1, parental behavior (B_p)--for example, the probability that a parent will reject (emotionally abuse), neglect, or physically abuse a child--is a function of the parent's (P) personal characteristics in interaction with both the child's (C) personal

Figure 1

Multivariate Model of Parental Behavior [a]

$B_p = f(P,C,S)$

where,

B_p = parental behavior

P = Personal characteristics of the parent(s)

C = personal characteristics and behavior of the child

S = situational factors

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[a] See text for complete explanation of elements in the model.

characteristics and his behavior, and with situational factors (S).[3] The three elements in the multivariate model (i.e., P.C., and S) correspond closely with the three simple models described in the introduction.

Although the three components of the multivariate model can be analyzed singly or in pairs, we argue as suggested above, that psychological, behavioral, and social-situational factors almost always operate simultaneously to produce rejection and abuse. That is, variations in parental behavior--in terms of parental rejection or emotional abuse--can best be explained and predicted by attending simultaneously to all three major classes of variables, the parent, the child, and the situation (or environment). This does not rule out the possibility, however, that the negative amplitude of a single element can sometimes precipitate an incident of abuse or rejection.

Elaboration of the Multivariate Model, with Bibliographic References

A constellation of eighteen "risk-factors" has been identified frequently in the research literature as being associated with child abuse and parental rejection. These are grouped here into three categories consistent with the three major components in the multivariate model shown in Figure 1. These components are elaborated below, and pertinent bibliographic references are cited in the Appendix, "Abuse/Rejection Bibliography." Numbers in parentheses following each risk-factor refer to relevant bibliographic items cited in the Appendix.[4]

I. PARENT'S PERSONAL CHARACTERISTICS (P)

A. Parent's "Negative" Personality Dispositions and Temperament.

(1) Personality dispositions and temperament, including hostility and aggression, dependency, negative self-esteem, negative self-adequacy, negative world view, emotional unresponsiveness, and emotional instability, etc. (11; 17; 19; 29; 35; 37; 38; 45; 46; 48; 49; 62; 69; 77; 79).

(2) Psychiatric condition of parent, including psychosis, manic-depression, etc. (8; 38; 58).

B. Parent's Child-Training Beliefs and Expectations.

(3) Belief in parents' right to administer physical punishment (10; 20; 30; 40; 68; 70; 71; 73; 76).

(4) Unrealistically high expectations for child's performance (e.g., for early continence), and parental ignorance (e.g., not knowing age-appropriate behavior

for young children) (16; 25; 57; 60; 67; 69; 74).

(5) Look to child for satisfaction of own personal needs (10; 36; 37; 45; 51; 67).

C. Parent's Misperception of the Child

(6) Child's activities, or child himself seen as willful, bad, unresponsive, etc. (8; 35; 60; 67; 69; 77).

D. Parent's Own Life History

(7) Unwanted pregnancy (7; 8; 35; 38; 54).

(8) Parents' own experiences of rejection/abuse (8; 11; 15; 35; 36; 38; 45; 52; 56; 62; 67; 69; 78; 79; 80).

II. CHILD'S PERSONAL CHARACTERISTICS AND BEHAVIOR (C)

A. Child's "Negative" Personality Dispositions and Temperament.

(9) Personality dispositions and temperament, including hostility, aggression, dependence, negative self-esteem, negative self-adequacy, emotional unresponsiveness, emotional instability, negative world view, etc. (1; 3; 4; 23; 24; 26; 47; 56; 57; 58; 59; 62; 63; 64; 72; 75).

B. Physical/Intellectual Problems or Anomolies

(10) Physical, intellectual, and emotional characteristics including academic problems and hyperactivity (1; 4; 7; 18; 30; 37; 62).

(11) Premature birth; low birth-weight infant (14; 19; 21; 24; 39; 43).

III. SITUATIONAL FACTORS (SOCIAL AND ENVIRONMENTAL STRESSES) (S)

A. Household Characteristics

(12) Household density (number of persons in household in

relation to effective available living space--i.e., crowding; lack of privacy (22; 50; 53; 62; 65).

(13) Family structure: broken vs. intact family; single parent family vs. nuclear or stem family household (1; 19; 31; 33; 35; 36; 41; 62; 77).[5]

(14) Household composition: number and age of children within the household; ordinal position of children; adult-child ratio--e.g., too many children per number of caretakers (9; 12; 19; 30; 33; 37; 42; 62; 75; 77).

B. Unavailability of Alternate Caretakers

(15) Social isolation of parents: mother unable to bring someone in, or to send children away, or to get away herself (7; 8; 13; 19; 27; 28; 30; 34; 38; 42; 46; 52; 62; 66; 77; 78).

C. Presence of an Unemployed Spouse

(16) Unemployed spouse--especially dissatisfied husband--within the household (5; 25; 29; 30; 31; 42; 44; 55; 61; 66; 77).

D. Marital Friction Between Spouses

(17) Marital friction including family violence, and disorganization (4; 19; 30; 56; 57; 59; 66; 70; 77; 78).

E. Role Frustration

(18) Extent to which parent, especially mother, finds child-rearing and home-making role frustrating, confining, and blocking her self-fulfillment (62).

AN EMPIRICAL STUDY OF CHILD ABUSE

Research presented here demonstrates the relative contribution of single-model approaches in relation to the multivariate model. As stated earlier, the multivariate model postulates that the probability of parental (P) rejection or abuse is a function of the parent's personal characteristics (P) in interaction (or additively) with the personal characteristics and behavior of the child (C), and with situational factors (S).

Method

Subjects

The sample consists of 14 abusive and 11 nonabusive families. The abusive families were located through the cooperation of three county protective services agencies in the metropolitan Washington D.C. area. These families were approximately matched by eleven non-abusive families in terms of the following factors: age of parent and of child, ethnicity, number of children in the family, and total number of people living together within a household. After the family interviews and testing were completed, however, it was discovered that the two samples differed significantly in terms of average level of parental education: parents in the nonabusing families had more years of formal education than did parents in abusing families ($F(1,18)=5.76$, $p<.05$). Sample children ranged in age from 7 through 11 years of age. Mothers were the major caretakers in all but one of the 25 families, where the father was the major caretaker.

Procedures

Nonabusing families were visited repeatedly over a period of nearly three months; abusing families were visited once for a period of approximately four hours. In each family information was obtained on all three components of the multivariate model, namely (P), (C), (S). The mother's (P) own childhood experiences of warmth or rejection were measured in part by the Parental Acceptance-Rejection Questionnaire (Adult PARQ II). (The instruments used are described later.) Information regarding the personality and behavioral dispositions of the mother (P) was obtained through her responses to the Personality Assessment Questionnaire (Adult PAQ). The Adult PARQ II yielded information about the mother's perception of the way she was treated as a child in terms of parental acceptance-rejection. The Adult PARQ I provided information about the mother's perception of her treatment (in terms of acceptance-rejection) of her own children. Demographic and situational (S) information about each family was collected through the Background Data Schedule. The Background Data Schedule elicited information about household density, household structure, availability of alternate caretakers, ethnicity, the presence of an unemployed spouse, occupation, income, education, and the like.

Information about the child's perceptions of his parent's behavior (C) was obtained through the Child PARQ. In addition, children's personality and behavioral dispositions were measured by their responses on the Child PAQ. The Child Interview elicited information about the child's life history, and the presence of other significant persons with whom the child related.

Instruments and Definition of Variables

Identification of Major Caretaker. The relative importance of each parent--and the caretaking role of any other household member, e.g., older siblings--as socializing agents was determined largely in answer to the interview question, "Who assumes or is assigned major responsibility for the routine daily care, supervision, and discipline of the child?" The importance of alternate caretakers was estimated by answering the question, "When the principal caretaker [as determined in the first question] is not present or is unable to care for the child, who then becomes responsible for the child?"

1. Parental Acceptance-Rejection Questionnaire (PARQ)

The Adult PARQ I is a self-report questionnaire where a parent (often a mother) responds to her perceptions about the way she treats her child in terms of (a) warmth and affection, (b) hostility and aggression, (c) indifference and neglect, and (d) undifferentiated rejection. The Adult PARQ II is basically the same instrument, but asks parents to reflect on the way they were treated as children in terms of the four scales cited in the Adult PARQ I. The Child PARQ is a self-report questionnaire where children 7 through 11 years of age respond to their perceptions of the way their mothers now treat them in terms of the same four scales.

The theoretical constructs assessed by the four PARQ scales are defined and operationalized in Rohner, Saavedra and Granum (1978a) along with an analysis of the validity and reliability of the instruments. Briefly, however, parental warmth and

affection refer to the love that parents can give children. Warmth and affection may be manifested verbally by praising a child, complimenting him, saying nice things to or about him, verbally consoling him, and so forth; warmth and affection may be manifested physically by fondling, hugging, kissing, and caressing a child, by physically comforting him, and in other ways. Parental hostility and aggression, on the other hand, refer to anger, enmity, bitterness, irritability and antagonism toward the child. Parents may be verbally aggressive toward children as when they curse them, nag them, belittle them, speak to them with a harsh, depreciating tone of voice, when they are sarcastic toward their children, make fun of them, or say other thoughtless, unkind or cruel things to or about the children. Physical aggression may be manifested in such forms as hitting, shoving, kicking, burning, biting, and poisoning. Parental indifference and neglect are quite different expressions of parental rejection. An indifferent parent is one who has little interest in the child, and who is unconcerned about the child's happiness and well-being. Neglecting (or indifferent) parents show a restricted concern for their children's welfare or development. Such parents are likely to spend a minimum amount of time with their children, and to be physically or psychologically remote from their children. The concept "undifferentiated rejection" refers to conditions where the child perceives his parents as withdrawing love from him (i.e., they reject him), but where such rejection does not clearly reflect either aggression and hostility, or neglect and indifference, per se. To illustrate, item 4 in the Child PARQ

states, "My mother does not really love me." This item does not unambiguously reveal either parental aggression/hostility or parental neglect and indifference.

2. Personality Assessment Questionnaire (PAQ).

The Child PAQ is a self-report questionnaire for children 7 through 11 years of age measuring seven personality and behavioral dispositions, including: (a) hostility, aggression, passive aggression, and problems with the management of hostility and aggression, (b) dependency, (c) self-esteem, (d) self-adequacy, (e) emotional responsiveness, (f) emotional stability, and (g) world view. The Adult PAQ is a self-report instrument developed to measure the same seven personality and behavioral dispositions among adults. Each of these dispositions, as shown earlier (Rohner, 1975) is linked the world over with parental rejection-acceptance. The theoretical constructs assessed by the seven PAQ scales are defined and operationalized in Rohner, Saavedra, and Granum (1978b), along with an analysis of the validity and reliability of the instruments.

3. Interview.

An interview was required to obtain information in areas untapped by the questionnaires as well as to provide external validation for the self-report questionnaires. For example, the interview elicited information about the parent's view of the child, and about the mother's perception of the child's father's (or other significant male's) treatment of the child. In addition, information was obtained about the parent's control (permissiveness/strictness), and about the mother's own childhood experiences in terms of the warmth and the control she experienced in her own family.

A brief child interview consisted of semistructured questions designed to elicit information pertinent to the "child's characteristics" portions of the multivariate model, but which was not assessed by the PARQ or the PAQ.

4. Background Data Schedule.

A "Background Data Schedule" measuring situational and demographic information was administered to each family. This information was collected from the parent. Relevant situational data included age, sex, ethnicity of the family, socioeconomic status of the family, as well as information on life experiences of the family such as divorce, death, desertion, unemployment, and so on.

Results

Simple Models Approach

For the purposes of statistical analysis all seven behavioral dispositions in the subcategories of parent's and child's "personality dispositions and temperament" (within the multivariate model) were listed individually in Table 1. An additional risk-factor labeled "inconsistent discipline" was also included. A chi-square test of significance was used to compare abusive vs. nonabusive families for the frequency of each of 30 risk-factors. Individually, three of the 30 factors differed significantly between the two groups. That is: (1) in 64 percent of the abusive families one or both parents' reported having been abused as children; however, 18 percent of the parents in the nonabusive families also reported themselves as having been abused. The differences in frequency of reported childhood abuse between the two groups is nonetheless significant ($X^2=5.31$, $p<.05$). (2) Parents in

Table 1

Frequency of Risk-Factors Associated with Child Abuse

Risk-Factors	Family Type	
	Abusive[a]	Nonabusive[b]
PARENT'S CHARACTERISTICS, P		
A. Hostility/aggression	3	3
Dependency	7	5
Negative self-esteem	3	1
Negative self-adequacy	5	0
Emotional unresponsiveness	5	3
Emotional instability	6	3
Negative world view	4	2
Psychiatric condition of parent	2	0
B. Physical punishment all right	8	4
High expectations of the child	1	1
Child satisfy parent's needs	2	0
C. "Bad" child	4	0
Inconsistent discipline	7*	1*
D. Unwanted pregnancy	0	0
Parents abused	9*	2*
CHILD'S CHARACTERISTICS, C		
A. Hostility/aggression	9	4
Dependency	13	7
Negative self-esteem	5	3
Negative self-adequacy	4	5
Emotional unresponsiveness	11	9
Emotional instability	12	8
Negative world view	4	0
B. Physical, intellectual problems	6*	0*
Premature, low birth-weight infant	0	0
SITUATIONAL FACTORS, S		
A. Family size	(n=6.5)[c]	(n=5.6)
Broken family	7	4
B. Social isolation of parent	1	0
C. Unemployed spouse	0	1
D. Marital friction, family violence	4	1
E. Home frustration	0	0

[a] n = 14
[b] n = 11
[c] Numbers in parentheses refer to the mean number of persons in the household.
*$p < .05$

abusive families enforced their household rules with less consistency than did parents in the nonabusive families. That is, 50 percent of the parents in abusive families were inconsistent in rule enforcement, whereas only 18 percent of the parents in nonabusive families were inconsistent. This difference is statistically significant ($X^2=4.74$, $p<.05$). (3) Finally, abusive families had a significantly higher proportion of children with high activity levels and with academic or other school-related problems than did nonabusive families. Forty-three percent of abusive families faced such problems, whereas no family in the nonabusive group did ($X^2=4.79$, $p<.05$).

As noted at the beginning of this paper, there is no one-to-one correspondence between physical abuse and perceived parental rejection or emotional abuse. Results of this research as shown in Table 2 confirm that claim in that only 29 percent of the

Table 2

Concordance Between Abusing Mothers' Perception of Parental Acceptance-Rejection and Abused Children's Perception of Maternal Acceptance-Rejection

Abused Child's Perception of Maternal Acceptance-Rejection	Abusing Mother's Perception of Her Own Mother's Behavior		Abusing Mother's Perception of Her Behavior toward Her Own Child	
	Rejecting	Accepting	Rejecting	Accepting
Perceived Rejection	3*	1	3*	1
Perceived Acceptance	0	10	0	10

*Fisher's Exact, p=.048

abused children in this study described their mothers as rejecting. It is important to note, however, that none of the nonabused children described their parents as rejecting. It is not unlikely, of course, that more of the abused children were indeed rejected, but denied it when responding to the Child PARQ. Nonetheless it seems clear that, in the child's view, some of the families reported for abuse were, overall, warm and caring families, perhaps caught in a net of acute personal and situational stresses which lead them to an episode of abuse--and this stress took its toll on the children. That is, even though only 29 percent of the abused children in this study reported themselves to be rejected by their mothers, 71 percent of the abused children displayed signs of impaired mental health, as measured in Table 3 by

Table 3

Overall Mental Health Status of Children in Abusive and Nonabusive Families

Family Type	Mental Health Status	
	Impaired[a]	Healthy[b]
Abusive		
Perceived rejection	4	0
Perceived acceptance	6	4
Nonabusive		
Perceived rejection	0	0
Perceived acceptance	2	9

[a]"Impaired" refers to children who scored 104 or more on the Child PAQ

[b]"Healthy" refers to children who scored 103 or less on the Child PAQ

the behavioral and personality dispositions assessed on the Child PAQ. It should be noted that all of the abused children who felt rejected showed signs of personality or behavioral distress. It is also instructive to note in Table 3 that whereas 71 percent of the abused children show signs of personality and behavioral impairment, only 18 percent of the nonabused children do ($X^2=6.7$, $p<.01$). Thus it seems that children who grow up in abusing families--especially if these children also feel rejected--have a greater likelihood than nonabused children of being aggressive, dependent, having feelings of negative self-esteem and negative self-adequacy, of being emotionally unresponsive, emotionally unstable, and of having a negative world view. Similarly, mothers in abusive families also have a significantly poorer mental health status than do mothers in nonabusive families as measured by their total composite score on the Adult PAQ ($F(1,22)=3.18$, $p<.05$).

Although 64 percent of the mothers in abusive families reported having been abused as children, only twenty-one percent of these mothers recalled having been rejected as children, as measured by their responses on the Adult PARQ II. All of these rejected mothers now see themselves as rejecting their own children. That is, as seen in Table 2, mothers in the abusive families who recalled themselves as having been rejected have children today who described their mothers as rejecting, as measured by a composite score of 150 or higher on the Child PARQ (Fisher's Exact $p = .048$). In fact, only one abused child saw her mother as rejecting and yet had a mother who had not been rejected herself as a child. These rejected mothers not only

reject their own children, according to their children's description, but as also seen in Table 2, they reject their children by their own admission--i.e., they score significantly higher on the Adult PARQ I than mothers whose children do not perceive them as rejecting (Fisher's Exact, $p = .048$).

Multivariate Model Approach

The multivariate approach complements the simple-model orientation to the study of rejection and abuse. Viewed one factor at a time only ten percent (n=3) of the 30 risk-factors cited in the multivariate model significantly differentiate abusive families from nonabusive families. The two family types are not significantly different from each other with respect to the other 27 risk-factors. When one considers the entire list of risk-factors proposed in the multivariate model, however, the picture changes dramatically. As shown in Table 4 the cumulative difference be-

Table 4

Mean Number of Risk-Factors Associated with Abusing and Nonabusing Families

Risk-Factors	Family Type				
	Abusing		Nonabusing		
	Mean	S.D.	Mean	S.D.	F
	10.4(14)[a]	2.5	6.3(11)	2.6	14.83**

Note: The number of risk-factors within individual families ranged from 1 to 17. The total number of possible factors was 30.

[a]Numbers in parentheses indicate number of families included in the study

**$p < .001$

tween the two samples is substantial. A one-way analysis of variance shows that the mean number of risk-factors found in abusive families is significantly greater than the mean number found in nonabusive families ($F(1,23)=14.83$, $p<.001$), although most nonabusive families do have at least one if not more risk-factors present.

The fact that one or more risk-factors is present in the nonabusive families as well as in the abusive families lends credence to the assertion that the presence of a single--or perhaps several--risk-factors does not necessarily produce significant family disruption or violence. However, the cumulative effect of increasing numbers of personal, interpersonal and situational stresses does seem to increase the probability of family disruption.[6]

Earlier we argued that it is not simply the number of items that is important for predicting the presence of child abuse, but that it is the way individual items are distributed throughout the three components of the multivariate model, namely P, C, and S. That is, it was argued that the family at greatest risk is most commonly one where problems are found in all three components. Data reported here support these expectations in that sixty-four percent of the abusive families have one or more problems in all three components, whereas only 27 percent of the nonabusive families do--and some of these "nonabusive" families may be candidates for future abusive or other maladaptive behavior.

DISCUSSION

From the perspective of the simple models, abusive families have a higher proportion of mothers who reported having been abused, neglected, or rejected as children than do nonabusive families. These parents also reported more inconsistency or less enforcement of family rules and regulations than did parents in nonabusive families. Furthermore, abusive families reported having a higher proportion of children with physical and/or emotional problems, including poor academic performance and a high activity level.

None of these three risk-factors by themselves, however, explained more than a modest amount of the variation in parents' behavior. None is highly predictive of parental rejection or child abuse. The picture changes, though, when one looks at the cumulative effect of multiple risk-factors distributed among the three domains specified in the multivariate model. So, for example, knowing that a person had been abused as a child is not by itself a good predictor that the parent will necessarily become abusive toward his children. Many adults who had been abused as children do not become abusive toward their own children. Nonetheless if one knows that the parent had been abused as a child (P), and that the parent is now home alone, in social isolation (S) with one or more active or difficult preschool children (C), and that the parent is experiencing an emotional crisis (P), then one may have fair justification for regarding the children at risk for possible rejection or abuse. An important point here is that abusive families generally have significantly more negative

factors working against them than nonabusing families, and that the greatest risk seems to occur when problems appear in each of three domains, i.e., with the parent, the child, and the situation.

In this article we have dealt with the more-or-less "additive" effects of increasing numbers of risk-factors in each component of the multivariate model. It seems likely, however, that these risk factors actually interact with each other in such a way that the critical threshold for each component depends on the strength of the other two components. If, for example, situational stress is exceptionally strong, an emotionally healthy mother may become abusive. An emotionally unhealthy mother, however, may need only a minimal level of situational stress to trigger an episode of abuse or rejection. Or if a child is unusually abrasive, sometimes only a moderate amount of situational stress will overwhelm a normally stable mother. Clearly there are numerous variations and possibilities suggested by this model.

Because of our small sample size it was not possible to determine how or even whether factors in the multivariate model actually interact as described above to heighten the probability of child abuse and rejection. We were able to demonstrate, however, that abusive families not only have a greater number of risk-factors present, but that the percentage of families in which risk-factors appear in all three elements of the model is significantly greater among abusive than among nonabusive families.

APPENDIX

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FOOTNOTES

1. The research reported in this article was supported in part by funds from Boys Town. The opinions expressed, however, do not necessarily reflect those of Boys Town. Elizabeth H. Madigan compiled the bibliography associated with the elements in the multivariate model of parental behavior. The paper profits from critical readings by Emeline O. Granum, and José M. Saavedra. Requests for reprints should be sent to R.P. Rohner at the Department of Anthropology U-158, University of Connecticut, Storrs, Connecticut 06268.
2. The fact that child abuse and parental rejection are often distinguishable should not be surprising in view of the fact that the concept "child abuse and neglect" is generally such an ill-defined and omnibus term that utterly different kinds of families can get caught in its web.
3. Even though the multivariate model is cast as a quasi-mathematical formula, it is intended as a general model appropriate to a wide range of issues in parenting, not simply to rejection and child abuse. Furthermore, the model is intended primarily as a set of conceptual guidelines and relationships for the study of abuse, and especially for study of the larger problem of which abuse is often a part--i.e., the problem of parental acceptance-rejection.

   The term parent (P) in the model denotes whoever the major caretaker(s) is/are of the child--not necessarily the child's biological or adoptive parents.

4. The items cited here do not exhaust the pertinent literature, but they do represent many of the most significant writings on the factors associated with parental rejection and especially abuse and neglect. Much more complete bibliographies and reviews of parental acceptance-rejection per se are found in Rohner and Rohner (1975), and in Rohner and Nielsen (1978).

   Many of the child abuse and neglect references cited in the model are discussed at greater length in several reviews, including Parke and Collmer (1975), and Belsky (1977).

5. "Nuclear family" refers to a family consisting of mother, father and their children; a "stem family" is a nuclear family plus, from the child's point of view, one or more grandparents.

6. A Pearson's correlation between family type (abusive or nonabusive) and number of risk factors was also significant ($r=.68$, $n=24$, $p < .05$), providing additional support for the notion that abusive families are associated with a larger number of risk factors than nonabusive families.